

REMARKS/ARGUMENT

In response to paragraph 1 of the Office Action, corrections have been made to the paragraphs appearing on page 4 at line 10 and page 5, line 10. In view of the changes, it is believed that the objection to the disclosure has been overcome.

In response to paragraphs 2 and 3 of the Office Action, claims 9, 22, 35, 48, 61 and 74 have been amended to more clearly recite the language of each claim's respective base claim. It is believed that in view of those amendments, antecedent basis has now been provided. Accordingly, it is respectfully requested that the objection under the first paragraph of 35 USC § 112 be withdrawn.

In paragraph 5 of the Office Action, independent claims 1, 27 and 53 are rejected under 35 USC § 103(a) as being unpatentable over Rao et al (6,041,142) in view of Coombs et al (5,565,998) and Agarwal (5,850,264). The Examiner recognizes that Rao does not disclose or suggest the forming of pseudo frames as set forth in the claims. The Examiner relies upon Coombs and Agarwal as teaching "that using pseudo frames reduces the amount of digital data that must be processed (Agarwal: column 1, lines 40-67, Coombs: note figure 1 where frame 2 AO/BE and frame 3 BO/CE are sources of pseudo frames)." The Examiner goes on to conclude that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the method described by Rao and add the pseudo frames taught by Coombs and Agarwal in order to obtain an apparatus that efficiently identifies data types in the video stream." It is respectfully submitted that the Examiner reads too much into Coombs and Agarwal.

It is respectfully submitted that Agarwal does not teach that using pseudo frames reduces the amount of digital data that must be processed. Rather, Agarwal teaches the discarding of various fields. Agarwal discloses:

By referring again to FIG. 1, in conjunction with FIGS. 2, 3(a), and 3(b), basic concept of this invention can be readily gleaned. The odd and even fields of the sequential video frames are alternately digitally encoded. This entails encoding one-half as much pixel data as is available from the original video source. As shown in FIG. 2, half of the originally-available video data is discarded in a regular sequential pattern before the digital encoding is implemented. This concept is also depicted in FIG. 3(a) wherein the information

in the dotted-line odd and even half frames is not encoded for transmission. One might be inclined to conclude that such a drastic elimination of information would result in serious degradation of the received image. But, on the contrary, Applicant has discovered that by a suitable synthesis of this incomplete data, a quite acceptable good quality video image can be created (if the subject does not make sudden movements).

Column 2, line 65 – column 3, line 14

Thus, it is seen from the foregoing that the reduction of digital data comes from discarding fields rather than from the use of any pseudo frames.

Coombs does not teach that using pseudo frames reduces the amount of digital data that must be processed. The figure to which the Examiner points for that teaching is nothing more than an illustration of the operation of a 3:2 pull down sequence. As discussed in Combs:

FIG. 1 illustrates at its left hand side the process of transferring film to videotape. A telecine machine 100 is used to scan the frames of a cine film in sequence, to generate video signals which are recorded on a videotape recorder (VTR) 102. Video signals conventionally define successive image frames in two interlaced fields, a first field containing the odd numbered lines of the image, and a second field containing the even numbered lines. Due to the different conventions in film and video technologies across the world, the telecine machine functions to adapt the frame rates as follows.

In transferring a 24 Hz film to European standard video (25 frames/second, 50 fields/second), it is conventional for the telecine apparatus merely to scan each film frame into two successive video fields. The viewer then tolerates the 4% speed-up that results when the video is replayed at 25 frames/second. If the so-called 'field dominance' is set correctly, the two fields in each video frame (odd field plus following even field) will always come from the same film frame.

In transferring to USA standard video (30 frames/second, 60 fields/second), the same process would give a very noticeable speed-up. Therefore it has become accepted practice that the telecine machine 100 samples the film frames by '3:2 pull-down' sequence, as illustrated in the lower left part of FIG. 1.

In 3:2 pull-down, the original film frames A, B, C, D etc, arrive with a 24 Hz frequency. The resulting video frames, with 60 Hz frequency, are made up of odd ('O') fields and even ('E') fields in the following 3:2 sequence:

AO AE AO BE BO CE CO CE DO DE EO EE EO FE FO GE GO GE HO HE . .

In other words, film frame A generates three video fields, the next film frame B

generates two video fields, C generates three fields, D two, E three and so on. The pattern repeats every five video frames, ten video fields or four film frames.

Column 3, lines 25 – 62.

As seen from the foregoing, the Examiner has not identified any teaching in Coombs or Agarwal that support the proposition that using pseudo frames reduces the amount of digital data that must be processed. The Examiner has pointed to no suggestion or motivation in the prior art for combining the references as suggested by the Examiner. Accordingly, the Examiner has failed to make a prima facie case of obviousness. Rather, the Examiner has improperly relied upon hindsight. Accordingly, it is respectfully requested that the rejection of independent claims 1, 27 and 53 under 35 USC § 103(a) be withdrawn.

Independent claims 14, 40 and 66 have been rejected under 35 USC § 103(a) as being unpatentable over Rao in view of Coombs et al and Agarwal. The rejection of claims 14, 40 and 66 is substantially the same as the rejection of claims 1, 27 and 53. Applicant submits that for the same reasons that claims 1, 27 and 53 are patentable, claims 14, 40 and 66 are also patentable. Accordingly, the rejection of claims 14, 40 and 66 under 35 USC § 103(a) should be withdrawn.

Applicant has not at this time presented arguments in favor of the patentability of the dependent claims nor has applicant challenged the Examiner's interpretation of Rao. Applicant reserves the right to submit arguments in favor of the dependent claims as well as arguments directed to Rao should that become necessary.


Applicant has made a diligent effort to place the instant application in condition for allowance. Accordingly, a notice of allowance for claims 1-78 is respectfully requested. If the Examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the Examiner is respectfully requested to contact applicant's attorney at the telephone number listed below so that additional changes may be discussed.

Finally, applicant notes that the three references relied upon by the Examiner in the section 103 rejection do not appear in the Notice of References Cited. So that these three references will be properly shown in the record as being considered by the Examiner, and printed

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on the front of any patent issued on this application, applicant encloses a form PTO/SB/08A listing the three references forming the 103 rejection for the convenience of the Examiner.

Respectfully submitted,



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